



Physical therapy

Oral communications

CO55-001-e

Seated Tai chi for patients with non-functional ambulation: A case series

Z. Guo

University of Tennessee Chattanooga, Chattanooga, USA



Introduction.– Non-ambulatory in particular, challenged by lack of access to safe, effective and engaging and therapeutic programs after being discharged from rehab program. As a result, many patients tend to engage in physical inactivity that would not only compromise the effort of clinical based therapeutic intervention; it would also delay functional recovery and lead to secondary conditions.

Methods and results.– This paper discusses results of a pilot study exploring the effectiveness of a short form of seated Tai chi program to patients with non-functional ambulation resulted from spinal cord injury, stroke, fibromyalgia and multiple sclerosis. Through the examination of participants' self-efficacy and their continuing participation in the practice of seated Tai chi program five years after the study, this presentation suggests that seated Tai chi program may be considered as a self-care modality. A short and seated Tai chi program offers unique advantages over in promoting meaningful specifically to patients with ambulatory difficulty. While the patient is seated, less stamina is required and there is no fear of falling or losing one's balance so the patient is usually much more at ease.

Conclusion.– Since it is short and there are fewer moves to learn, it would significantly facilitate the learning experience and promote patient's intrinsic motivation to practice.

<http://dx.doi.org/10.1016/j.rehab.2014.03.1174>

CO55-002-e

Obesity complicated or not by a lipo-edema: Is there any veno-lymphatic drainage due to lower limb oscillations by a KiMachine?

S. Theys^{a,*}, F. Cadel^a, M.E. Aguilar Ferrándiz^b, S. Otto^c, T. Deltombe^a^a CHU Godinne, Yvoir, Belgium^b CHU San Juan, Belgium^c HE LHA, Belgium

*Corresponding author.



Keywords: Drainage; KiMachine[®]; Lipo-edema; Plethysmography; Obesity

Objectives.– The goal of this prospective study was to investigate the veno-lymphatic response of a Japanese heel oscillator named KiMachine[®].

Methods.– Twenty-one consecutive women were included in this prospective study. The KiMachine[®] was applied in obesity patients (n : 8; mean BMI 32 kg/m²) and lipo-edematous ones (n : 13; mean BMI: 32.7 kg/m²).

Results.– Both describe heavy legs. The evaluation of the veno-lymphatic drainage was carried out by plethysmography, the mercury gauge placed round the calf. No lower limb had a varicose syndrome (% δV 60 moy = 2.9 ± 0.2) or a post-thrombotic one ($t^{3/4}$ moy = $6s \pm 2$). Over the 16 min of oscillations, the relative variation of volume was 0.0% $\delta V/min$. Thus, there was no veno-lymphatic drainage improvement for both groups. The very modest response may be the response to the - sole - postural drainage of the lower limbs (heel at 20 cm above the level of the bed). The results lead us to conclude that a session of KiMachine[®], leads to no improvement of venolymphatic drainage for both fat persons and patients suffering from lipo-edema.

Conclusion.– This confirms other studies that showed no venous or lymphatic response too at the calf in case of venous stasis, chronic venous insufficiency, phlebo-edema or lympho-edema.

<http://dx.doi.org/10.1016/j.rehab.2014.03.1175>

CO55-003-e

The effects of localised temperature changes on lower limb function and neuromuscular properties in people with hereditary spastic paraparesis

A. Denton

Plymouth University, Plymouth, United Kingdom



Keywords: Hereditary spastic paraparesis; Temperature; Function

People with hereditary spastic paraparesis (pwHSP) report that walking ability and limb stiffness is worse in cold weather. The self-reported most affected lower leg of PwHSP (n = 22) and matched controls (n = 19) was cooled (7 °C) or warmed (37 °C) on separate occasions. Functional, neurophysiological and temperature measures were recorded at baseline and after 30 minutes.

At baseline pwHSP had significantly increased walking and foot tap times; higher passive and stretch-evoked stiffness, lower maximal and rate of rise of force generation and a prolonged central motor conduction time. In both groups cooling led to increased walking and foot tap time; reduction in peripheral nerve conduction velocity, decrease in maximal and rate of rise of force and an increase in stretch reflex size whilst warming had the opposite effect. Changes in foot tap time were significantly correlated with the change in peripheral nerve conduction velocity. Changes in walking time were more marked in pwHSP. Localised warming or cooling limb affects neuromuscular function and functional ability. The effect of cooling may be more marked in pwHSP as they have less ability to compensate for small deteriorations in localised neuromuscular function. Interventions that help to maintain/improve limb temperature may have functional benefits in pwHSP.

<http://dx.doi.org/10.1016/j.rehab.2014.03.1176>